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**Press Release**

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# *Indiana Wins Grant to Develop Brake Systems for Hybrid, Electric and Fuel Cell-Powered Vehicles*

INDIANAPOLIS — An innovative project designed to change the way automobile brakes are controlled will soon be underway in Indiana thanks to an $856,367 grant from the U.S. Department of Energy.

Lt. Governor Joe Kernan announced today that the Indiana Department of Commerce's Energy Policy Division (EPD) won a 2001 grant from the U.S. Department of Energy Initiative on Cooperative Programs with States for Research, Development, and Demonstrations. EPD applied for the grant in conjunction with Electricore, Inc. of Indianapolis; Delphi Automotive Systems of Kokomo; and Purdue University of West Lafayette.

"We are thrilled to have received this support from the Department of Energy to help develop the technologies of the future for Indiana's automotive industry," said Kernan, who serves as director of the Indiana Department of Commerce. "Auto companies will continue to be an engine of economic growth in our state as we move into a new era of automotive technology, and this grant will catalyze one area of that transition."

The new generations of vehicles being developed are high efficiency automobiles powered by hybrid electric systems, fuel cells and electric batteries. For hybrid cars to perform at peak efficiency, and for fuel cell and electric-powered vehicles to operate accessory systems such as brakes at all, the accessory systems must operate independently of the engine. In cars powered by internal cumbustion engines, these hydraulic systems run off of the vacuum created by the engine. In the future, they will be operated by electrical devices.

The Indiana Department of Commerce will enter into a cooperative agreement with the U.S. Department of Energy to research, develop and demonstrate *switched reluctance machine* (SRM) technology for electric brake-by-wire systems. Ultimately, this project will result in automobiles that are more stable and fuel-efficient than current vehicles.

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Brake research/add 1

Brake-by-wire systems can improve a driver's control over brake force, which results in a higher level of vehicle stability and performance. These systems are also lighter than traditional brake systems and eliminate brake drag, improving a vehicle's fuel efficiency. These improvements extend the life of a car's brake pads. High performance aircraft have been using similar "fly-by-wire" technology since the 1980s.

This three-year project will be carried out by Commerce's grant partners: Electricore, which is an advanced technology consortium; Delphi Energy & Chassis Systems, which has brake-by-wire component design and development expertise; and Purdue University, which will develop simulation analysis of the systems.

For more information about this project, contact EPD Industrial Program Manager Ethan Rogers at 317.232.8961. To learn more about any of Commerce's programs, call 317.232.8800 or visit the Web site www.indianacommerce.com.

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